



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/282,851	03/31/1999	CHANG-SOO PARK	678-252 (P8722)	9197

7590 11/26/2003

PAUL J FARRELL
DILWORTH & BARRESE
333 EARLE OVINGTON BOULEVARD
UNIONDALE, NY 11553

EXAMINER

LAMARRE, GUY J

ART UNIT	PAPER NUMBER
----------	--------------

2133

18

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

TS

Office Action Summary

Application No.

09/282,851

Applicant(s)

PARK ET AL.

Examiner

Guy J. Lamarre, P.E.

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 63,64,66,67,69,72,73,75,76,78-80,87,88,91,97,98 and 100-108 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 63, 64, 66, 67, 69, 72, 73, 75, 76, 78-80, 87-88, 91, 97, 98 and 100-108 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 16 September 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 18.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

0. This office action is in response to Applicants' **Amendment** of 17 Sept. 2003. Applicant's IDS of 8 Aug. 2003 has been entered. The Examiner has considered the IDS: PTO Form 1449 will be forwarded when the application is in condition for allowance.

0.1 Claims 63-64, 66-67, 69, 72-73, 75-76, 78-80, 87-88, 91, 97-98 and 100-108 remain pending.

Response to Arguments

0.2 Applicants' arguments of *17 Sept. 2003* have been fully considered: they are found persuasive only to the extent that the feature of dynamic data segmentation based on channel characteristics is not specifically described by the prior art of record. Said feature is clarified and is further supported by newly found references from, e.g., **Webster** (US Patent No. 5,307,351; 26 Apr. 1994) in Fig. 4 and col. 7 line 55 et seq., as follows.

Claim Objections

1. Claim 91 is objected to because the period after 'information' in line 5 should a semi-column.

It is not clear, in **Claim 64** line 3, what is meant by 'concatenating the output of the turbo encoder for the input data frame. Examiner understands that concatenation is a chain connection which implies a junction of at least two parts.

Appropriate correction is required.

Claim Rejections - 35 USC ' 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior

Art Unit: 2133

art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2.0 This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).


2.1 Claims 63, 64, 66, 67, 69, 72, 73, 75, 76, 78-80, 87-88, 91, 97, 98 and 100-108 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Applicants' Admitted prior art** (hereinafter **Admitted prior art**) in view of **Webster** (US Patent No. 5,307,351; 26 Apr. 1994).

As per Claims 63, 66, 67, 69, 72, 75, 76, 78-80, 87-88, 91, 97, 98, 100-104 and 106-108

Admitted prior art substantially discloses the procedure for the claimed mobile or base or remote communication system having a turbo encoder (Figs 1-2) having data frames of variable size comprising: means to send data or a processor for determining to concatenate a number of consecutive input data blocks to compose or assemble a data frame or plural subframes which can be generated from one input data frame or stream (page 3 line 9 et seq.); and a turbo encoder (page 1 last para.) a buffer for storing the consecutive input data blocks (dk); a first constituent encoder (Fig. 1 block 12) for receiving said composed data frame or plural subframes and encoding same which is composed of a number of input data blocks; an interleaver (Fig. 1 block 16) for interleaving the data of the super frame or a data frame or plural subframes; and a second constituent encoder (Fig. 1 block 14) for encoding the interleaved data of the super frame or a data frame or plural subframes. {See **Admitted prior art**, Figures 1-2, page 1 last para. - page 4 para. 2, in passim, wherein apparatus and method are described.} **Not specifically described** in detail in **Admitted prior art** is the step whereby means is provided for determining a number of input sub-frames or sub-blocks or sub-packets required to construct a frame or block or packet based on frame size or permissible delay or error rate.

However the approach of breaking or partitioning or segmenting or dividing a data super frame or frame or stream or sequence or block or packet into plural sub-frames or sub-blocks or sub-packets or sub-streams or sub-sequences and performing the reverse transformation thereon to recover the original data subsequent to intermediate processing is well known. For example, **Webster**, in an analogous art, discloses, in Fig. 3: block 73 and Fig. 4 and col. 7 line 55 et seq., hardware and an algorithm for dynamic data segmentation based on channel characteristics wherein such techniques are described based on transfer channel bit error rate or transfer media characteristics including means to initialize data communication via call setup, and means to assess memory size requirements prior to start of data communication. {See **Webster**, Id., Figs. 1-4 and associated description in, e.g., col. 2 line 30 et seq. For example, the passage at col. 1 line 46 et seq., teaches means to group original incoming data into frames for transfer through a channel along with all required hardware design means to recover said original incoming data so partitioned. Said required hardware design means comprising data frame fitting means to appropriately process data frames, etc.} **Therefore**, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the procedure of the **Admitted prior art** by including therein dynamic or real time or on the fly width adjusting means based on transfer channel bit error rate or transfer media characteristics, as taught by **Webster**, because such modification would provide the procedure disclosed in the **Admitted prior art** with a technique whereby *“data transfer frame length is dynamically adjusted based on the quality of the transmission line or channel so as to improve data processing.”* {See **Webster**, Id., col. 2 line 40 et seq.}

As per **Claims 64, 73, 105**, **Admitted prior art** discloses the procedure for the claimed mobile communication system as claimed, wherein said interleaver includes an interleaving



Art Unit: 2133

address mapper for interleaving said frame or sub-frames. {See **Admitted prior art** in Fig. 1: block 16 for interleaving or address mapper means and concatenation means}

2.1.1 Claims 64, 73, 102, 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Applicants' Admitted prior art** (hereinafter **Admitted prior art**) in view of **Webster** (US Patent No. 5,307,351; 26 Apr. 1994) in further view of **MacNamee et al.** (US Patent No. 5,212,684; May 18, 1993).

As per **Claims 64, 73, 105, Admitted prior art** and **Webster** substantially disclose the procedure for the claimed mobile or base or remote communication system having a turbo encoder (Figs 1-2) configured for processing variable size input data blocks. {See **Admitted prior art**, Figures 1-2, page 1 last para. - page 4 para. 2, in passim, wherein apparatus and method are described.} **Not specifically described** in detail in **Admitted prior art or Webster** is the step whereby means is provided for channel interleaving and multiplexing or modulation. **However** such approach is well known. For example, **MacNamee et al.**, in an analogous art, discloses an information-processing algorithm wherein such techniques are described. {See **MacNamee et al.**, Id., Fig. 5: blocks 22&34 (multiplexing), col. 2 line 25 et seq. (modulation means) and col. 2 line 62 (channel interleaving).} **Therefore**, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the procedure of the **Admitted prior art** and **Webster** by including therein channel interleaving and multiplexing means, as taught by **MacNamee et al.**, because such modification would provide the procedure disclosed in the **Admitted prior art** and **Webster** with a technique whereby **channel interleaving pseudo-randomizes code symbols** to provide symbol diversity for better burst error protection. {See **MacNamee et al.**, col. 2 line 62 et seq.}

As per **Claim 102, MacNamee et al.** discloses the procedure for the claimed multiplexing means, including means for latency or permissible delay (col. 2 lines 10-16), block size or memory size adjustment at col. 2 line 18 et seq.

Art Unit: 2133

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

3.1 Any response to this action should be mailed to:

Commissioner of Patents and Trademarks, Washington, D.C. 20231


or faxed to: (703) 872-9306 for all formal communications.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Fourth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guy J. Lamarre, P.E., whose telephone number is (703) 305-0755. The examiner can normally be reached on Monday to Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert De Cady, can be reached on (703) 305-9595.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.


Guy J. Lamarre, P.E.
Patent Examiner
11/24/03
